In the claims:

1. (original) An apparatus for driving lasers, the apparatus comprising:

a laser current controller for providing a modulation signal and a bias signal;

a plurality of high-speed current drivers that accept the modulation signal and the bias signal and produce a plurality of laser drive signals; and

a disable input that selectively disables power to at least one high-speed current driver when the high-speed current driver is not in use.

2. (original) The apparatus of claim 1 wherein the apparatus is integrated on an integrated circuit.

3. (original) The apparatus of claim 2 further comprising an integrated array of lasers coupled to the plurality of high-speed current drivers for receiving the plurality of laser drive signals.

4. (original) The apparatus of claim 1 wherein the laser current controller comprises:

an automatic power control (APC) input that accepts a digital APC signal; and

circuitry that adjusts the modulation signal and bias signal to the high-speed current drivers.

5. (original) The apparatus of claim 1 further comprising

a high-speed current driver that drives a feedback laser; and

a feedback circuit that accepts a signal from the feedback laser and generates a modulation feedback signal and a bias feedback signal and provides them to the laser current controller.

6. (original) The apparatus of claim 5 wherein the feedback circuit comprises:
a peak to peak detector that generates the modulation feedback signal; and
an average value detector that generates the bias feedback signal.

7. (original) The apparatus of claim 1 further comprising at least one high-speed current driver, which does not have a disable input.

8. (original) The apparatus of claim 6 further comprising a photo detector that detects laser light produced by a laser driven by one of the high-speed current drivers of the integrated driver and provides it to the peak detector and the average value detector.

9. (original) The apparatus of claim 8 wherein the laser, which provides light to the photodetector, is a control laser, which is modulated by a signal of substantially lower frequency than a maximum frequency of the data lasers.

10. (original) The apparatus of claim 8 wherein the modulating frequency is approximately 100 MHZ.

11. (original) The apparatus of claim 9 wherein the frequency response of the photodetector is less than a maximum frequency of the data lasers and equal to or greater than the modulating frequency.

12. (original) The apparatus of claim 8 wherein the peak detector comprises:
an input that accepts an output of the photo detector; a capacitance that accepts the output of the photodetector from the peak detector input and holds the output of the peak detector; and
means for producing a slow discharge of the capacitance.

13. (original) The apparatus of claim 12 wherein the means for producing a slow discharge of the capacitance comprises:

a transistor, having a base collector and emitter, wherein the base of the transistor provides a discharge path for the capacitance; and

a constant current source coupled to the emitter circuit of the transistor.

14. (original) The apparatus of claim 2 wherein the plurality of high-speed current drivers receive power from a first power supply, and the remainder of the integrated circuit receives its power from a second power supply thereby reducing the overall power consumed.

15. (original) The apparatus of claim 10 further comprising a modulator that modulates the control laser with a signal having a lower frequency than a maximum frequency of any of the data lasers.

16. (original) The apparatus of claim 15 wherein the maximum frequency response of the photo detector is lower than a maximum frequency of any of the data lasers.

17. (original) An apparatus for driving lasers, the apparatus comprising:

a laser current controller for providing a modulation signal and a bias signal;

a plurality of high-speed current drivers that accept the modulation signal and the bias signal and produce a plurality of laser drive signals; and

a feedback circuit that detects laser light produced by a laser driven by one of the high-speed current drivers to produce a modulation feedback signal and a bias feedback signal for provision to the laser current controller.

18. (original) An apparatus as in claim 17 wherein the laser current controller and the plurality of high-speed current drivers are integrated on an integrated circuit.

19. (original) The apparatus of claim 18 further comprising a laser array integrated on the integrated circuit.

20. (original) The apparatus of claim 17 wherein the feedback circuit further comprises a photo detector having lower frequency response than a maximum frequency of any of the data lasers.

21. (original) An apparatus as in claim 17 further comprising a signal generator that generates a modulating signal that modulates the laser producing the laser light detected by the photo detector, said modulation signal being of substantially lower frequency than a maximum frequency of any of the data lasers.

22. (original) An apparatus as in 17 wherein the feedback circuit comprises:
a photodetector that accepts the laser light and produces a proportional voltage;
a peak detector that accepts an output of the photo detector;
a capacitance that holds the output of the peak detector; and
means for producing a slow discharge of the capacitance.

23. (original) An apparatus as in claim 22 wherein the means for producing a slow discharge of the capacitance comprises:
a transistor, wherein the base of the transistor provides a discharge path for the capacitance; and
a constant current source within the emitter circuit of the transistor.

24. (original) The apparatus of claim 18 wherein the plurality of high-speed current drivers receive power from a first power supply, and the remainder of the integrated circuit receives its power from a second power supply thereby reducing the overall power consumed.

25. (original) An apparatus for driving lasers, the apparatus comprising:

a laser current controller for providing a modulation signal and a bias signal;

a plurality of high-speed current drivers that accept the modulation signal and the bias signal and produce a plurality of laser drive signals;

a disable input that disconnects power from a high-speed current driver when the high-speed current driver is not in use;

a feedback laser that is driven from one of the plurality of high-speed current drivers; and

a feedback circuit, including a photodetector that accepts light from the feedback laser and produces a modulation feedback signal and a bias feedback signal, said photodetector having a cutoff frequency lower than the maximum frequency of the high-speed current drivers.

26. (original) The apparatus as in claim 25 further comprising a signal generator that modulates the feedback laser with a signal having a lower frequency than the maximum frequency of the high-speed current drivers.

27. (original) An apparatus as in claim 25 wherein the feedback circuit further comprises:

a peak detector that accepts an output of the photo detector;

a capacitance that holds the output of the peak detector; and

means for producing a slow discharge of the capacitance.

28. (original) An apparatus as in claim 27 wherein the means for producing a slow discharge of the capacitance comprises:

a transistor having a collector, emitter and base, wherein the base of the transistor provides a discharge path for the capacitance; and

a constant current source within the emitter circuit of the transistor.

29. (original) The apparatus of claim 28 wherein the high-speed current driver and the laser current controller are integrated on the same integrated circuit.

30. (original) The apparatus of claim 29 wherein the plurality of high-speed current drivers receive power from a first power supply, and the remainder of the integrated circuit receives its power from a second power supply thereby reducing the overall power consumed.

31-66. (Canceled)

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